

BUREAU OF DESIGN AND ENVIRONMENT MANUAL

Appendix D

GUIDANCE on EA/EIS Preparation

Table of Contents

<u>Section</u>	<u>Page</u>
GENERAL	1
PART I: How to Write an Environmental Assessment (EA) or	
Environmental Impact Statement (EIS)	2
Cover Sheet	4
Summary (for EISs only)	
Chapter 1 - Purpose and Need	
1.1 Where is the project located?	
1.2 What is the project's background?	
1.3 What is the Need for the Proposed Project?	
1.4 What is the Purpose of the Proposed Project?	
Chapter 2 – Alternatives	14
2.1 What alternatives were considered?	14
2.2 What alternatives were eliminated and why?	15
2.3 What are the Alternatives to be Carried Forward?	16
2.4 What is the Preferred Alternative?	17
Chapter 3 – Environmental Setting, Impacts, and Mitigation	18
3.1 Social and Economic Factors	
3.2 Agricultural	
3.3 Historic Properties	
3.4 Air Quality	25
3.5 Noise	28
3.6 Energy	32
3.7 Natural Resources	33
3.8 Surface Water Resources	36
3.9 Groundwater Resources	39
3.10 Floodplains	41
3.11 Wetlands	42
3.12 Special Waste	45
3.13 Special Lands	45
3.14 Section 4(f) Evaluation	47
3.15 Indirect and Cumulative Impacts	49
3.16 Greenhouse Gases and Climate Change (EIS only)	50
3.17 Irretrievable and Irreplaceable Resources	

Table of Contents

(Continued)

Section	Page
3.18 Environmental Commitments	51
3.19 Permits/Certifications Required	51
3.20 Other	51
Chapter 4 – Comments and Coordination	52
Part II: How to Write a Finding of No Significant Impact (FONSI) and Errata	53
FONSI	53
Errata	56
Part III: How to Write a Record of Decision AND Final Environmental Impact Staten	nent57
Cover Pages	57
ROD Format	60
Final Environmental Impact Statement (FEIS) Preparation	62

GENERAL

The purpose of this guidance is assist district and consultant staff in the development of well written and easily understood Environment Assessments or Environmental Impact Statements. Chapter 24 (Environmental Assessments) and Chapter 25 (Environment Impact Statements) tell the reader the procedure to follow when an EA or EIS is required.

PART I: HOW TO WRITE AN ENVIRONMENTAL ASSESSMENT (EA) OR ENVIRONMENTAL IMPACT STATEMENT (EIS)

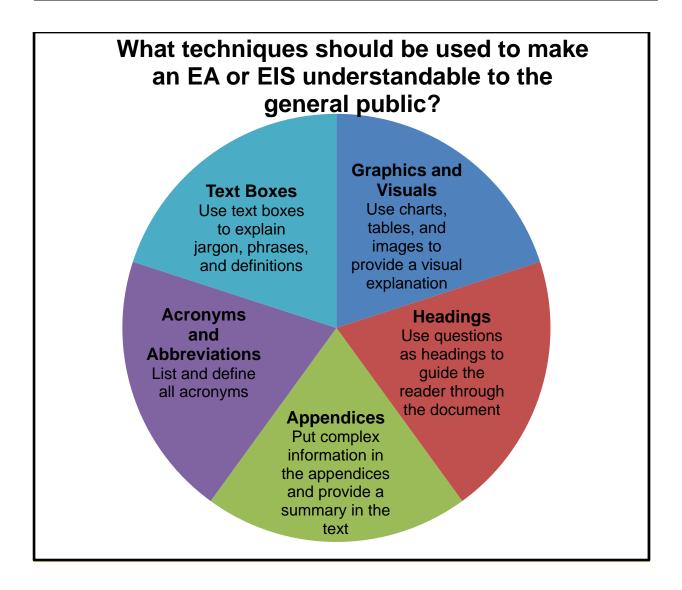
Part 1 provides guidance on how to write an Environmental Assessment (EA), a Draft Environmental Impact Statement (EIS), and a Draft Supplemental EIS. The EA, EIS, and Supplemental EIS will follow the same format except where noted. The purpose of the guidance is to set clear expectations for what information should be included in these documents and how the information should be displayed. The EA or EIS should¹

- "tell the project's story" using clear and concise writing and quality graphics,
- be as brief as possible,
- be understandable to the general public, and
- demonstrate regulatory and legal compliance.

To accomplish this, the EA or EIS must concentrate on the issues that are truly significant to the action in question, rather than including needless detail. Figure 1 depicts techniques that can be used to make EAs and EISs understandable to the general public.

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¹ *Improving the Quality of Environmental Documents* (A Report to the Joint AASHTO/ACEC Committee in Cooperation with the Federal Highway Administration), May 2006, p. 4.



Techniques for EA/EIS Understandability

Figure 1

Cover Sheet

If the project is an EA, use Figure 2 to format the Cover Sheet. If the project is a Draft Environmental Impact Statement use Figure 3. The Cover Sheets were adapted from FHWA Technical Advisory T6640.8A (see Appendix A) to provide information specific to Illinois. The Engineer of Design and Environment signs the Cover Sheet for the Department.

Please note that all cooperating agencies must be included on the cover sheet.

[Route, Termini, City or County, and State]

ENVIRONMENTAL ASSESSMENT

Submitted Pursuant to 42 USC 4332 (2)(c)

by the

U. S. Department of Transportation Federal Highway Administration

and

Illinois Department of Transportation

<u>Cooperating Agencies</u> [Include list here, as applicable]

Date of Approval	For IDOT
Date of Approval	For FHWA

The following persons may be contacted for additional information concerning this document:

(Name)
Division Administrator
Federal Highway Administration
3250 Executive Park Drive
Springfield, Illinois 62703
Telephone: 217-492-4640

(Name, office address, and phone number of IDOT Regional Engineer)

A one-paragraph abstract of the EA indicating project type, length, etc. Describe quantifiable environmental impacts (e.g., number of acres of wetlands affected, acres of agricultural impacts, number of displacements).

EA Cover Sheet

Figure 2

[Route, Termini, City or County, and State]

DRAFT (SUPPLEMENTAL) ENVIRONMENTAL IMPACT STATEMENT

Submitted Pursuant to 42 U.S.C. 4332 (2)(c) (and where applicable, 49 U.S.C. 303) by the

U. S. Department of Transportation Federal Highway Administration

and

Illinois Department of Transportation and [As applicable, any other joint lead agency]

Cooperating Agencies
[Include List Here, as applicable]

Date of Approval	For IDOT
Data of Assessed	
Date of Approval	For FHWA
The following persons may be contacte	ed for additional information concerning this document:
[Name]	[Name, office address, and phone number
Division Administrator	of IDOT Regional Engineer]
Federal Highway Administration	
3250 Executive Park Drive	

[A one-paragraph abstract of the statement.]

Springfield, Illinois 62703 Telephone: 217-492-4640

*FHWA will issue a single FEIS and Record of Decision document pursuant to Public Law 11: 141, 126 Statute 405, Section 1319(b) unless FHWA determines statutory criteria or practicabili consideration preclude issuance of the combined document pursuant to section 1319.

Comments on this document are due by [Date] and should be sent to [Name and office address | IDOT Regional Engineer].*

DEIS/ Supplemental Cover Sheet

Figure 3

Summary (for EISs only)

Per 40 CFR 1502.10, summaries are required for EISs. EAs do not require a summary. In EISs the summary should include:

- 1. A brief description of the proposed project indicating route, termini, type of improvement, number of lanes, length, county, city, State, and other information, as appropriate.
- 2. A description of any major actions proposed by other governmental agencies in the same geographic area as the proposed FHWA action.
- 3. A summary of all reasonable alternatives considered, including alternatives that were carried forward for further study.
 - a. If a preferred alternative is identified in the Draft EIS then the summary must identify the preferred alternative.
 - b. The Final EIS must identify the preferred alternative and should discuss the basis for its selection.
- 4. A summary of major environmental impacts, both beneficial and adverse.
- 5. Any areas of controversy (including issues raised by agencies and the public).
- 6. Any major unresolved issues with other agencies.
- 7. A list of other Federal actions required for the proposed project (i.e., permit approvals, land transfer, Section 106 agreements, etc.).
- 8. The project's web address. All EAs and EISs are uploaded to IDOT's website. If there is a project specific website then the project specific website must be linked to IDOT's website.

The following is the recommended format for EAs, DEISs, and the FEIS traditional approach discussed in Part III.

<u>Environmental Assessment/ [Draft, Final] Environmental Impact Statement Table of Contents</u>

Summary (for EISs only)
Chapter 1- Purpose and Need
1.1 Where is the project located?
1.2 What is the project's background?
1.3 What is the Need for the Proposed Project?
1.4 What is the Purpose of the Proposed Project?
Chapter 2- Alternatives
2.1 What alternatives were considered?
2.2 What alternatives were eliminated and why?
2.3 What are the Alternatives to be Carried Forward?
2.4 What is the Preferred Alternative?
Chapter 3 – Environmental Setting, Impacts, and Mitigation
3.1 Social and Economic Factors
3.2 Agricultural
3.3 Historic Properties
3.4 Air Quality
3.5 Noise
3.6 Energy
3.7 Natural Resources
3.8 Surface Water Resources
3.9 Groundwater Resources
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- 3.13 Special Lands
- 3.14 Section 4(f) Evaluation
- 3.15 Indirect and Cumulative Impacts
- 3.16 Greenhouse Gases and Climate Change
- 3.17 Irretrievable and Irreplaceable Resources
- 3.18 Environmental Commitments
- 3.19 Permits/Certifications Required
- 3.20 Comments and Coordination
- 3.21 Other

Chapter 4 – Comments and Coordination.....

Chapter 1 - Purpose and Need

Every effort should be made to develop a concise purpose and need statement that focuses on the primary transportation challenges to be addressed. The purpose and need shall focus on identifying the transportation challenges and not a solution to the transportation challenges. The purpose and need should not be narrowly defined, point to a single solution, or predetermine an outcome.

1.1 Where is the project located?

Provide a clearly labeled map of the project study area and briefly describe:

- geographic features within the area
- the existing facility
- the length of the project
- the logical termini

Logical Termini:

Logical termini are typically two reasonably-determined locations that geographically delineate a transportation project. The most common logical termini are points of major traffic generation, especially intersecting roadways. Logical termini should be selected so:

- environmental issues can be treated on a sufficiently broad scope to ensure that the project will function properly without requiring additional improvements elsewhere,
- the project will not restrict consideration of alternatives for other reasonably foreseeable transportation improvements, and
- the action has stand-alone use or independent value and is a usable and reasonable expenditure even if no additional transportation improvements in the area are made.

1.2 What is the project's background?

Provide a summary of the following:

- the history of the proposed project
- summary of any planning or corridor studies relevant to the proposed project
- any other transportation projects occurring, or scheduled to occur within the project area

1.3 What is the Need for the Proposed Project?

State the need for the project by presenting and analyzing data that demonstrates a traffic need not currently being met via other roadways or modes of transportation. The data presented shall demonstrate that a transportation problem exists and should answer the question "Why is the proposed project necessary?" The data may include, but is not limited to, safety ratings,

sufficiency ratings, substandard geometrics, crash data and analysis, traffic models, origindestination studies, etc.

Some examples of how the transportation need can be identified are:

- Identify and describe current and projected traffic, show data on maps;
- Describe the inadequacy of the existing capacity and performance conditions (e.g., level of service, quantified delays);
- Identify and describe any structural, operational, or functional deficiencies (e.g., substandard geometrics, load limits on structures, inadequate cross-section) and their effect on performance or safety;
- Describe regional population/traffic forecasts, including the proposed project's relationship to any statewide plan or adopted urban transportation plan, and any reasonable foreseeable land use changes;
- Describe and compare both the existing and projected crash rates without the project to
 the current statewide average. Include relevant crash data based on the latest 3-5 years
 using the crash severity scale (K, A, B, C, and O). Analyze the data to describe trends,
 locations, crash types, etc. that would assist in determining potential causes of crashes
 and contributing factors specifically associated with the roadway environment. Show
 crash locations on maps; and
- Discuss any maintenance issues and costs.

Identify any key assumptions and explain why those key assumptions were made.² For example, traffic forecasts are based on assumptions about future population and employment trends. The underlying assumptions must be credible for the results to be credible.

1.4 What is the Purpose of the Proposed Project?

State the primary purpose(s) of the proposed project and how it will address the transportation need(s) identified. The purpose of a proposed project should lead directly back to the identified needs. For example, if data analysis supports the conclusion that there is insufficient highway capacity to support current or future traffic, the purpose would be to address the insufficient capacity. A project may contain more than one purpose if the data demonstrates the need for such. Any secondary purpose(s) should be stated, after the primary purpose(s) have been addressed.

The following considerations and questions should be used to identify the purpose(s) of the project (for additional

Primary Purpose

The primary purpose answers why the project is being studied. All alternatives considered, except the No Build alternative, must meet the primary purpose.

Secondary Purposes

Secondary purposes are additional outcomes or benefits that are desired. Alternatives considered are not required to meet the secondary purpose.

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² AASHTO Improving the Quality of Environmental Documents (A Report to the Joint AASHTO/ACEC Committee in Cooperation with the Federal Highway Administration), May 2006, p. 7.

information see FHWA Technical Advisory T6640.8A). Once identified, discuss.

1. System Linkage (Connectivity)

- Is the proposed project a "connecting link?"
- Describe the inadequacy of connectivity and/or continuity in the existing system.

2. Capacity

- Is the capacity of the existing facility adequate for current and projected traffic?
- Provide and analyze supporting data such as Level of Service and traffic volumes.

3. Legislation

 Explain any Federal, State, or local governmental mandate for the proposed project.

4. Social Demands or Economic Development

 Describe any social or economic developments that necessitate the proposed

project (e.g., new schools, places of employment, land development, etc.)

 Consider what method would be used for evaluating economic development among alternatives.

5. Modal Interrelationships

• Describe how the proposed will serve to complement airports, rail and port facilities, mass transit services, etc.

6. Safety

- Describe the likely conditions related to crashes/safety without the project.
- Is the proposed project necessary to correct an existing or potential safety hazard?
- Is the existing accident rate excessively high? Why?

7. Transportation Facility Deficiencies

- Describe any foreseeable deficiencies that may result if no action is taken.
- Is the proposed project necessary to correct existing roadway deficiencies?

Connectivity refers to the effective movement of people, goods, and services.

Continuity refers to uniform speed and pavement widths that promote free flow movements of people, goods, and services.

Economic Development

Per FHWA Technical Advisory T6640.8A, social demands and economic development are allowed as part of a project's purpose. However, economic development should be a secondary need and not a primary need, when *transportation continuity and connectivity* (that promote economic development) are identified as a project need. Thus, addressing the primary need for continuity and connectivity may result in the promotion of economic development

Improving safety

Highway improvements produce safety benefits. In order to include safety as a <u>primary purpose</u>, data supporting the <u>need</u> to improve safety must be documented and analyzed. The data and analysis should clearly demonstrate that there is a specific safety problem and the analysis will identify the root cause(s) and contributing roadway factors.

Do <u>not</u> include in the purpose or need section:

- A discussion of alternatives. The purpose and need create the foundation for an alternatives analysis; this section should not discuss alternatives.
- The solution to the identified transportation purpose and need.
- A discussion of the potential environmental impacts. The purpose and need statement only should identify transportation problems based on existing conditions and analysis of supporting data.

Chapter 2 – Alternatives

2.1 What alternatives were considered?

The alternative analysis should include a reasonable range of alternatives that meet the purpose and need. Explain the alternatives development, screening, and evaluation process adequately so that it is rational, reasonable, and complete. Include the No Build alternative, Transportation System Management alternative, Mass transit alternative, and Build alternatives.³

2.1.1 No Build alternative

The No Build alternative typically includes maintenance and short-term minor restoration types of activities (such as resurfacing or safety improvements) that maintain continued operation of the existing roadway. It includes all reasonably foreseeable transportation improvements that will be implemented within the design year of the proposed project, but excludes the proposed project. Although the no-build frequently does not meet the purpose and need, it must be carried through the NEPA process as a baseline for comparison of impacts and benefits.

In the discussion of the No Build alternative:

- Describe the existing conditions;
 - + State all key transportation improvements that are assumed to be in place in the forecast year;
 - + Describe the conditions that will exist in the design year if the proposed project is not implemented;
- Include land use and traffic forecast data;
 - + Consider other reasonably foreseeable actions that may affect the project (e.g., new subdivision, planned intermodal facility, industrial/commercial development, community development initiatives, etc.); and
 - + Include supporting data for any assumptions made. Supporting data may come from Local Agencies, STIP, community development plans, etc.

Note: It is possible, though very rare, for No Build to be selected as the preferred alternative. This generally occurs in circumstances where there are substantial impacts or the need is not sufficiently supported to justify the impacts.

2.1.2 Transportation system management (TSM)

The TSM alternative includes better management and operation of existing transportation facilities to improve traffic flow and air quality, as well as enhance system accessibility and safety.

Evaluate if reconstruction and rehabilitation of the existing system corrects the identified deficiencies and meets the project purpose and need. TSM strategies are operational in nature and include, but are not limited to, improvements or additions of:

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³ FHWA Technical Advisory T 6640.8A

- intersections and signals,
- fringe parking,
- ride sharing,
- High Occupancy Vehicle lanes,
- acceleration/deceleration lanes, ramps, and weaving sections,
- horizontal and vertical curves,
- signage and pavement striping, and
- geometrics.

See Section 22-6.04 for additional requirements that apply if a proposed action is in a Transportation Management Area (i.e., an urban area with a population of 200,000 or more).

2.1.3 Mass transit or multi-modal alternative concepts

Include and describe those reasonable and feasible transit options even though they may not be within the existing FHWA funding authority. Close coordination is necessary with the transit agency(ies) and the local Metropolitan Planning Organization, if applicable, to ensure that IDOT's specific project is consistent those entities' plans.

2.1.4 Build alternatives

Build alternatives may include improvement of existing highways and alternatives on new locations, or a combination of both.

Evaluate and describe a reasonable range of build alternatives that will address the purpose and need using text plus maps and charts, or other visual aids.

2.2 What alternatives were eliminated and why?

- Evaluate and state whether each alternative meets the purpose and need.
- Eliminate all alternatives that do not meet the purpose and need.
- Explain the methods and criteria used for developing and screening alternatives.
- Disclose environmental impacts considered for all alternatives, including the No Build.
 Use the most current reasonably available information. Do not eliminate alternatives based on outdated information.
- Eliminate the alternatives anticipated to have disproportionately large environmental impacts (e.g., relocations, wetlands, cultural resources, etc.)
- For each alternative eliminated, provide an explanation why it was eliminated.
 - + Do not dismiss alternatives for not meeting a screening criterion or evaluation measure, but then carry forward other alternatives that also do not meet that same criterion/measure, without providing the context of why such decisions are logical.
 - + Support the decision to eliminate alternatives with sufficient explanation and documentation. Do not eliminate alternatives based on generalities without adequate explanation or documentation to support the decision.
- Summarize public and agency comments that influence which alternatives will be carried forward.
- Summarize the results of this process using visual aids such as charts and tables.

 Provide maps showing the alignments of the alternatives and environmental resources considered..

2.3 What are the Alternatives to be Carried Forward?

The alternatives to be carried forward are those reasonable alternatives that are studied in detail.

Discuss alternatives to be carried forward at a comparable level of detail to avoid any indication of bias toward a particular alternative. Disclose environmental impacts considered for all alternatives, including the No Build. Provide maps showing the alignments of the alternatives and environmental resources considered. Identify and describe any unique features and common design elements of each alternative.

The table below is an example of how to illustrate
the alternatives analysis in a graphic form.

Alternative	Doe	es the alternative meet the purpose and need?	Was the alternative carried forward for detailed study?	Alternatives studied in detail	
	Yes If no, why?		If no, why?	detail	
1	x		6-lane road has greater impacts than 4-lane alternatives and is substantially more costly.		
2		The planter median included in the alternatives would decrease safety and roadway capacity.			
3	Х			Х	
4	Х			Х	
5	х		Requires major traffic flow changes.		

2.4 What is the Preferred Alternative?

Preferred alternative is the alternative that best meets the project's purpose and need while balancing and minimizing the impacts to environmental resources.

Place a brief summary of the preferred alternative at the beginning of the alternatives chapter when writing the EA or EIS.

Describe the preferred alternative. Explain the rationale for selecting the preferred alternative. Include a map of the preferred alternative alignment. When introducing the preferred alternative, do not use the term "determined" or "recommended." Instead use the term "identified."

Does the preferred alternative have to be identified in the Draft EIS?

FHWA strongly recommends that the preferred Alternative be identified in the Draft EIS (DEIS). This facilitates the process of having a combined Final EIS (FEIS) and Record of Decision (ROD) since MAP-21, Section 1319(b), requires FHWA, to the maximum extent practicable, to develop a single document that combines the FEIS and ROD. More information about this can be found in Chapter 25 of the BDE Manual.

<u>Chapter 3 – Environmental Setting, Impacts, and Mitigation</u>

This chapter describes the current land uses, economy and jobs, noise, air quality, wildlife, wetlands, park land, cultural, and other resources that exist within the project study area. This chapter also describes the potential effects of the project on these resources.

3.1 Social and Economic Factors

Need more information? Please see IDOT's Community Impact Assessment Manual.

3.1.1 What community(ies) exist within the project study area?

Describe the community(ies) within the project study area. Include in the description, community name, population, any ethnic, racial, religious minorities, elderly, and disabled groups. Use demographic data from the US Census decennial (ten year) data or American Community Survey (5 year) data, or both. Present median household income and unemployment rate for the project study area. As applicable, present population trends and future population projections. Present an exhibit that delineates and shows boundaries, as applicable, for neighborhoods, U.S. Census Tracts, cities, and county(ies).

Identify community facilities and community service centers (schools, places of worship, libraries, hospitals, parks, fire and police facilities, etc.). Public facilities in the project study area should be described and shown on exhibits.

3.1.2 Will the project impact Title VI, minority, or low-income populations?

State the following:

No groups or individuals have been, or will be, excluded from participation in public involvement activities, denied the benefit of the project, or subjected to discrimination in any way on the basis of ethnicity, religion, race, elderly, color, age, sex, national origin, or religion.

Clearly state if minority, or low income populations are present using the following language:

The project area was evaluated in accordance with Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, to determine if there is a potential for

What is the relationship between Title VI and environmental justice?

Title VI of the Civil Rights Act of 1964 specifically provides that "...no person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance."

Environmental justice ensures that federal programs, policies, and other activities do not have disproportionately high and adverse effects on minority or low-income populations. This goal is to be achieved, in part, by actively adhering to the principles and practices of both Title VI and NEPA during the development and implementation of transportation activities.

disproportionate and adverse impacts to low-income or minority populations. Based on demographic information [2017 U.S. Census' American Community Survey or most recent data] and observations of the project area indicates that residents of the project area are ____% white; ____% black; __ American Indian and Alaskan native; ____% Hispanic; and % Asian and Hawaiian. The median family income for the project area is \$. % of the residents are below the median family income within the project area. The [Health and Human Services 2017 or most recent guideline] Poverty Guidelines for a family of four is \$__

minority and low-income populations are not present, then state the following:

project area.

Based on this demographic and

information field observations of the project area, there are no minority or low-income populations in the

What impacts may be evaluated in an **Environmental Justice analysis?**

All reasonably foreseeable adverse social, economic, and environmental effects to minority populations and low-income populations are to be identified and addressed. Adverse effects include, but are not limited to:

Bodily impairment, infirmity, illness, or death...

- Air, noise, and water pollution; and soil contamination.
- Destruction or disruption of man-made or natural resources.
- Destruction or diminution of aesthetic values.
- Destruction or disruption of community cohesion or a community's economic vitality.
- Destruction or disruption of the availability of public and private facilities and services.
- Vibration.
- Adverse employment effects.
- Displacement of persons, businesses, farms, or nonprofit organizations.
- Increased traffic congestion, isolation, exclusion, or separation of minority or lowincome individuals within a given community or from the broader community.
- The denial of, reduction in, or significant delay in the receipt of benefits of DOT programs, policies, or activities.

If minority, or low-income populations are present, state whether there the proposed action will or will not cause adverse impacts to any minority, or low-income populations. If there are adverse impacts, clearly identify those impacts. Next, state if these are or are not disproportionate to minority or low-income populations. If there are disproportionate and adverse impacts, discuss relevant and reasonable mitigation measures in this order: avoiding the impacts, minimizing the impacts, rectifying the impacts, reducing the impacts, or off-setting benefits to the impacts. Discuss the public participation efforts to seek participation by underserved populations.

For access-controlled roadways in urban areas, evaluate and provide a brief history of transportation projects in the area to determine if there were any historical disproportionately high and adverse effects on minority or low-income and communities. For example, a roadway's original construction through a downtown area may have divided a neighborhood, or it may

have restricted local travel to an important community center. State if there still exists evidence of the original neighborhood that has been isolated due to the presence of the roadway. If such actions occurred, document this history, and coordinate with FHWA to determine if there are reasonable measures that could reconnect the community, e.g. alternative alignments, design elements that facilitate better access across the transportation facility, etc. Proposed mitigation is eligible for federal funding, and must be a reasonable public expenditure after considering impacts and benefits.

3.1.3 Will the project have any change in travel patterns?

- Describe whether traffic patterns will change after completion of the proposed project.
- Discuss if travel times will increase or decrease. Typically, a project will result in a savings in travel time and allow transportation users to journey from their origin to their destination more quickly; if so, then discuss.

The assessment of travel pattern impacts should include potential travel. includina pedestrians, bicyclists, and persons with disabilities. The assessment of travel patterns is a factor in community cohesion.

- Discuss if the project has the potential for dividing or isolating communities or neighborhoods.
- Discuss if the project will positively or negatively disrupt community access from residential neighborhoods to public facilities (e.g., places of worship, schools, libraries, hospitals, community centers, parks, child care facilities) services (e.g., fire, police, ambulance), or businesses. Would any of these disruptions require mitigation? If any of these disruptions cause an adverse travel impact, then the EA or EIS must avoidance minimization discuss and efforts?

Transportation effects on community cohesion can be difficult to quantify. Thus, qualitative effects should be discussed. For example, an obvious negative impact to community cohesion would be a new road that creates a physical barrier between residents and community facilities, where prior to the transportation change the facilities could be accessed by an easy walk, bicycle or short drive.

Where projects involve temporary changes in access due to road closures, traffic detours, etc., the analysis and assessment of impacts should summarize:

- + changes in neighborhood travel patterns;
- disruptive effects of traffic detours;
- "barrier" effects related to change in access for police, fire, or health services; +

+ and if travel times will increase or decrease. The assessment of travel pattern impacts should include all potential travel, including pedestrians, bicyclists, and persons with disabilities.

3.1.4 Will the project change or impact any pedestrian, bicycle, or transit facilities?

Discuss if any changes to pedestrian, bicycle, or transit facilities are consistent with local and regional plans. Discuss any impacts to existing pedestrian, bicycle, or transit facilities including temporary or permanent changes. Discuss if the project increases transit options

New pedestrian facilities and new bikeways can improve connections between residents and community facilities. If this occurs it should be documented in the EA or EIS.

(bus, rail, etc.) for the project study area. Discuss impacts to school bus routes.

3.1.5 Will the project require any residential or business relocations?

If relocations are not involved the EA or EIS needs to contain a sentence stating "this project has no residential or commercial relocations."

If relocations are involved, state the number and types (i.e., residential, commercial, and agricultural). Discuss how the project avoided and minimized relocations. Discuss the availability of replacement property in the project vicinity. The discussion on relocation impacts shall include the following statements:

- the provisions of the "Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended" and the IDOT Land Acquisition Procedures Manual will be followed. Note: This statement is needed whenever land must be acquired for any purpose;
- a commitment to "provide housing of last resort, if necessary"; and
- the housing resources are available to all relocatees without discrimination.

3.1.6 Land Use

Describe existing and planned land use within the study area and indicate whether the proposed project is consistent with local and regional land use plans. Cite the applicable local government's land use plan(s). Discuss the effect of the proposed action on existing or planned land use in the community. If the proposed project is not reasonably expected to change land use in the project study area, then clearly state that fact.

3.1.7 Will the project cause any economic impacts, economic growth or economic development?

Describe types of businesses within the project study area. All major employers within the project study area should be identified and their respective number of employees stated. Discuss the potential for impacts to businesses, specifically for access changes and parking loss. Discuss if the project could decrease sales at an established, traffic-oriented businesses (e.g., gasoline service station, restaurant, or retail store). For

The necessity and degree for conducting an economic assessment is determined by the nature of the impact in the project study area, and the nature of the impact within the context of the larger regional area.

each displaced business, state the estimated number of people employed.

Discuss the freight network and its multi-modal aspects for projects within metropolitan areas and Projects of National and Regional Significance.

Describe the potential for economic growth (typically quantitative) in the region. Discuss the potential for economic development (typically qualitative) in the region, such as it relates to a sustained longer-term change in economic activity leading to an improvement in the jobs, wealth, tax base, and well-being in the neighborhood, city, or county. Discuss the number of jobs created as a result of the proposed transportation project, using three distinct multipliers:

- Direct jobs are (for example: engineers, workers, and laborers on the road crew). The
 direct employment multiplier is 8.35 jobs for every \$1 million spent on the project.
- Indirect jobs that may increase are (for example: employment at the local asphalt plant and various road supplies). The indirect employment multiplier is 9.25 to 12.7 jobs for every \$1 million spent on the project.
- Induced jobs are increased secondary spending at a local restaurant. The induced employment multiplier is 10.5 jobs for every \$1 million spent on the project.

The project team may utilize other methods to discuss and evaluate economic impacts, economic growth, economic development, or jobs created

3.2 Agricultural

Need more information? Please see Chapter 26-10.

Include the following language:

Conversion of agricultural land to highway right of way can lead to reductions in agricultural production. Minimizing these effects is required by the Federal Farmland Protection Policy Act and the Illinois Farmland Preservation Act.

Note: the taking of a farm residence and known agricultural tax loss from right-of-way purchased should be summarized under the Social and Economic discussion.

3.2.1 Will the project impact farms or convert farmland to other uses?

Identify the estimated amount of farmland (prime or important farmland) to be converted to non-agricultural use. If known, include the estimated conversion of agricultural land for borrow or contractor-use areas and other proposed mitigation efforts (e.g., wetland mitigation).

The discussion of agricultural impacts shall include a summary of the following information:

- the number of agricultural parcel severances created;
- the number of agricultural landlocked parcels created;
- the number of uneconomical agricultural remnants of three acres or less in size;
- the potential loss in crop production and potential cash

Where possible, use tables and exhibits to illustrate agricultural impacts.

receipts;

- the number of agricultural businesses relocated;
- the number of farmstead relocations;
- if the project adversely impacts farm equipment travel, describe the impact and the proposed mitigation measures; and
- the soil type and class information..

3.2.2 Will the project impact Protected Agricultural Areas?

Identify and discuss avoidance or non-avoidance of:

- land registered in the Illinois Agricultural Areas Conservation and Protection Act,
- farms and acreage enrolled in the federal Conservation Reserve Program, and
- farms certified by Illinois as Centennial or Sesquicentennial Farms.

State if any farms are registered with any farmland protection program administered by the respective county or by the Illinois Department of Agriculture.

3.2.3 Has coordination with the Natural Resources Conservation Service and the Illinois Department of Agriculture occurred?

Coordination is required with the Natural Resources Conservation Service (NRCS), unless the project is exempt per 523.10(B) or 523.11(E)(1) of the National Resource Conservation Service manual If coordination with the NRCS is required, include a copy of the Form NRCS-CPA-106 as an exhibit. Refer to Section 26-10 for the basis of coordination with the Illinois Department of Agriculture (IDOA). If coordination is not required for either NRCS or IDOA, explain why not.

3.3 Historic Properties

Need more information? See Section 26-5.

Include the following language:

Historic properties are any properties that are on or eligible for listing in the National Register of Historic Places (NRHP), and include below ground resources, like archaeological sites, and above ground resources, like buildings and bridges. These resources are protected by Section 106 of the National Historic Preservation Act (NHPA).

Please note that if a property is not on the NRHP but is determined to be eligible, it is still protected under Section 106.

3.3.1 How were historic properties identified in the project study area?

Depict the boundaries of the project's Area of Potential Effect (APE), as coordinated by FHWA with the Illinois State Historic Preservation Officer (SHPO), on the environmental inventory

Archaeological site locations are protected and should not be depicted on maps or otherwise shared with the general public.

map. The APE may or may not be the same area as the ESR study area. Describe the steps taken to identify historic properties, including a list of consulting parties invited to be included in the process.

3.3.2 Do archaeological properties exist within the Area of Potential Effect?

If no, state that there are no archaeological properties within the APE. If yes, discuss the number and types (cemetery, mound, or habitation) of archaeological sites listed or eligible for listing on the NRHP within the APE, including the applicable criteria for eligibility.

3.3.3 Do historic architectural properties (buildings, bridges or structures) exist within the Area of Potential Effect?

Archaeological sites are typically habitation areas, but also include burial mounds and cemeteries. Special efforts should be made to avoid potential impacts to mounds and cemeteries.

If no, state that there are no historic architectural properties affected. If yes, describe each historic property's boundary (e.g., building plus parcel as concurred upon by the SHPO) including the characteristics that qualify them for the NRHP and the applicable criteria for eligibility, and clearly identify the NRHP boundaries of the properties in the appendix. Please note that the historic boundaries might include only the structure, or might also include additional land surrounding the structure.

3.3.4 Will the project impact archaeological properties?

If there are no archaeological properties in the APE or if archaeological properties are present but not affected, state that there are "no historic properties affected."

If there are archaeological properties, describe what steps were taken to avoid and minimize potential impacts to those sites. If the sites were avoided, state this fact.

If potential impacts to the sites cannot be avoided explain why not, state that the project will cause an adverse effect, that further archaeological work is necessary and that work will be completed according to stipulations specified in a Memorandum of Agreement (MOA) or project Programmatic Agreement (PA). The MOA or PA must be fully ratified prior to FHWA approving a FONSI or ROD.

3.3.5 Will the project impact historic architectural properties?

If there are historic architectural properties, describe what steps were taken to avoid and minimize potential impacts to those properties. If the properties were avoided, state this fact.

If potential impacts to architectural properties cannot be avoided, describe the effects on each historic property. If any land from within the historic property's NRHP boundary will be converted to transportation use by the project, clearly describe where and how much (in square feet or acres). This must be done for each historic property.

- If the impacts will not adversely affect the historic property, state that there will be "no adverse effect." Explain the basis for this determination and why the criteria of adverse effect do not apply. Cite and include in the appendix the letter that documents SHPO concurrence in this determination.
- If the impacts are determined to be "adverse effect", state the effect determination, explain the basis for this determination and why the criteria of adverse effect apply. State that work must be completed according to stipulations specified in a Memorandum of Agreement (MOA) or project Programmatic Agreement (PA). The MOA or PA must be fully ratified prior to FHWA approving a FONSI or ROD.

<u>Include the following in the appendix:</u>

- Copies or summaries of any views provided by consulting parties, including Tribes and the public, and SHPO letter(s) of concurrence on eligibility and effect determinations.
- If an adverse effect finding is made, include a copy of the letter to the Advisory Council on Historic Preservation notifying them of the Adverse Effect finding, and a copy of the executed MOA or PA.
- If the project is an EIS, all of the above information should be included in the DEIS if it
 is available. If the final effect finding and/or the MOU or PA is not available until the
 Final EIS is prepared, make note of the additional steps that will be taken prior to
 completion of the FEIS in the DEIS.

3.4 Air Quality

Include the following language:

Air quality is protected by the Clean Air Act and air quality standards established by the U.S. Environmental Protection Agency.

3.4.1 Carbon Monoxide Microscale Analysis

Need more information? See Section 26-14.

If the project does not add through lanes or auxiliary turning lanes, or does not involve any sensitive receptors and is not suitable for using COSIM, state the following:

In accordance with the IDOT-IEPA "Agreement on Microscale Air Quality Assessments for IDOT Sponsored Transportation Projects," this project is exempt from a project-level carbon monoxide air quality analysis because it does not add through lanes or auxiliary turning lanes and has no sensitive receptors.

If the project does not exceed 5,000 vph or 62,500 ADT, COSIM analysis is not required, so state the following:

In accordance with the IDOT-IEPA "Agreement on Microscale Air Quality Assessments for IDOT Sponsored Transportation Projects," this project is exempt from a project-level carbon monoxide air quality analysis because the highest design year approach volume on the busiest leg of the intersection is less than 5,000 vph or 62,500 ADT.

If COSIM analysis is required state the following:

The air quality effects of the proposed project were analyzed using the Illinois
Carbon Monoxide Screen for Intersection Modeling (COSIM). The "worst case"
analysis provided by the COSIM model indicated that the proposed undertaking
does not have the potential for contributing to a violation of the National Ambient
Air Quality Standards for CO. CO concentrations for the worst case receptor (i.e.,
residence) located [] (see Exhibit []) were as follows:
Existing ([year]) ppm; Build – Time of Completion (TOC) ([year]) ppm,
TOC + 10 years ([year]) ppm, and Design Year ([year]) ppm; No
Action ppm in [TOC year], ppm in [TOC + 10 year], and ppm in
[design year].

3.4.2 Air Quality Conformity

Need more information? See Section 26-11.

If the project is outside of a nonattainment or maintenance area, state the following:

No portion of this project is within a designated nonattainment or maintenance area for any of the air pollutants for which the U.S. Environmental Protection Agency has established standards. Accordingly, a conformity determination under 40 CFR Part 93 ("Determining Conformity of Federal Actions to State or Federal Implementation Plans") is not required.

If the project is exempt from conformity requirements state the following:

This project is located within a designated nonattainment or maintenance area but is a project type that the U.S. Environmental Protection Agency (USEPA) has designated as exempt from regional emissions analyses of transportation plans and Transportation Improvement Programs for purposes of determining conformity with the State Implementation Plan (SIP). This designation is based on USEPA's determination that the nature of the project is such that it would not affect the outcome of a regional emissions analysis.

If the project is not exempt and is within a nonattainment or maintenance area, see Section 26-11.03(d) for specific language to be used.

3.4.3 PM_{2.5} and PM₁₀ Nonattainment and Maintenance Areas

Need more information? See Section 26-12

If the project is exempt, state the following:

D(26)

This project is considered exempt from the requirements of conformity per 40 CFR 93.126 or 40 CFR 93.128, as applicable. USEPA has determined that such projects meet the Clean Air Act's requirements without any further Hot-Spot analysis.

If the project is nonexempt, but is not an air quality concern, state the following:

This project is not an air quality concern under 40 CFR 93.123(b)(1). Due to [state reason(s)], it has been determined that the project will not cause or contribute to any new localized $PM_{2.5}$ or PM_{10} violations or increase the frequency or severity of any $PM_{2.5}$ or PM_{10} violations. USEPA has determined that such projects meet the Clean Air Act's requirements without any further Hot-Spot analysis.

If the project is nonexempt, and is an air quality concern, see Section 26-12.03(d) for hot-spot analysis procedures and appropriate language.

3.4.4 Mobile Source Air Toxics (Section 26-13)

Need more information? See Section 26-13.

If the project is exempt under the Clean Air Act conformity rule under 40 CFR 93.126, then no analysis or discussion of MSATs is necessary.

If the project has potential MSAT effects, see Section 26-13.03(b), (c), and (d) for procedures and appropriate language.

3.4.5 Construction Related Particulate-Matter

State the following language:

Demolition and construction activities can result in short-term increases in fugitive dust and equipment-related particulate emissions in and around the project study area. (Equipment-related particulate emissions can be minimized if the equipment is well maintained.) The potential air quality impacts will be short-term, occurring only while demolition and construction work is in progress and local conditions are appropriate. The potential for fugitive dust emissions typically is associated with building demolition, ground clearing, site preparation, grading, stockpiling of materials, on-site movement of equipment, and transportation of construction activity, and during high wind conditions.

The Department's Standard Specifications for Road and Bridge Construction include provisions on dust control. Under these provisions, dust and airborne dirt generated by construction activities will be controlled through dust control procedures or a specific dust control plan, when warranted. The contractor and the Department will meet to review the nature and extent of dust-generating activities and will cooperatively develop specific types of control techniques appropriate to the specific situation. Techniques that may warrant consideration include measures such as minimizing track-out of soil onto nearby publicly-

traveled roads, reducing speed on unpaved roads, covering haul vehicles, and applying chemical dust suppressants or water to exposed surfaces, particularly those on which construction vehicles travel. With the application of appropriate measures to limit dust emissions during construction, this project will not cause any significant, short-term particulate matter air quality impacts.

3.5 Noise

See Section 26-6 and the IDOT Highway Traffic Noise Assessment Manual to assist in completing this section.

Begin with a brief explanation about the regulations that pertain to noise analysis (federal regulations (23 CFR 772) and IDOT noise policy).

If the project did not require a noise analysis, then state the following and there is no need to continue with the rest of this section.

"The types of projects that do not require a noise analysis are stated in 23 CFR Part 772. This project meets those criteria and does not require a traffic noise analysis, noise barrier, or other noise abatement measures."

If the project required a traffic noise analysis include the following language:

3.5.1 How is noise assessed for roadway projects?

Roadway noise depends on four main factors:

- The number of vehicles present;
- Traffic speed;
- The number of large trucks present; and
- How far the listener is from the roadway.

Traffic noise is predicted for Existing, future No Build, and future Build conditions. The Department uses data and findings from traffic noise reporting to determine if traffic noise impacts will occur due to the proposed project, then methods to reduce noise for the listener (called noise abatement) are considered.

There are four steps in highway traffic noise analysis:

1) Identify places with similar noise and land use. This is done by determining Common Noise Environments (CNEs), which are a group of receptors with similar noise exposure, topography, traffic characteristics, and land use. CNEs are grouped by noise sensitivity based on FHWA Activity Categories (i.e., residential, parks, hotels, etc.). Assign one representative receptor per CNE, as the worst-case noise location in the CNE. A receptor is a location analyzed for noise impacts and is typically an exterior area of frequent human use (bench, patio, etc.).

- 2) Conduct noise modeling for each receptor. Existing, future No Build, and future Build conditions are modeled using FHWA Traffic Noise Model 2.5 (TNM 2.5) for each representative receptor, using comparative field monitoring to ensure the model accurately represents the area's noise characteristics.
- 3) Analyze representative receptors (one per CNE) for noise impacts. If the representative receptor is impacted, the entire CNE is considered to have a noise impact. There are two ways to identify noise impacts:
 - a) Compare modeled future Build noise levels to the FHWA Noise Abatement Criteria (NAC) to determine if noise impacts will occur (see table below). The NAC does the following:
 - classifies where noise levels interfere with human speech;
 - differs by land use; and
 - establishes noise levels at which noise barriers need to be studied.

 The CNE has a noise impact if future Build noise at the representative receptor is within one decibel, meet, or exceed the NAC.
 - b) For each representative receptor, the CNE has a noise impact if future Build noise is predicted to increase by 15 decibels or more at a representative receptor(s).
- 4) Determine if noise abatement is feasible and reasonable for each impacted CNE. Noise abatement are measures taken to reduce traffic noise impacts (i.e., construction of berms or noise walls, shifting roadway alignment, etc.). For each CNE determined to be impacted by noise, noise abatement is assessed.

Noise abatement must

- be feasible to construct;
- effectively reduce noise;
- be cost-effective; and
- have a majority of those benefited by each abatement measure support its construction. This is called viewpoints solicitation, and depending on the project's characteristics, is completed in either preliminary engineering or

after the final design has been approved.

What is noise abatement?

Noise abatement reduces traffic noise impacts. Examples of noise abatement are construction of berms or noise walls, shifting roadway alignment, etc.

Example Land Uses	FHWA Noise Abatement Category	FHWA Noise Abatement Criteria - Noise Level Where Impact Occurs (dB(A))
Residential	В	67
Recreational areas, cemeteries, hospitals, medical facilities, parks, places of worship, schools, trails	С	67
Hotels, motels, restaurants, bars, offices	Е	72
Agriculture, airports, emergency services, industrial, manufacturing, retail facilities, utilities, warehousing	F	None
Undeveloped lands that are not permitted for development	G	None

Table 1: Noise Abatement Criteria Categories and Noise Levels Where Impact Occurs

3.5.2 Are there any noise sensitive areas in the project study area?

Describe the type and number of Common Noise Environments (CNEs) (residences, businesses, schools, recreational, etc.) in the project study area. Make sure to include any undeveloped lands for which development is permitted.

3.5.3 Are there any noise impacts in the project study area?

If necessary, include a brief explanation of noise terminology (e.g., A-weighting, decibels, etc.) Reference the noise study that was conducted. State the Existing, No Build, and Build noise levels (in dB(A)) for all representative receptors at each CNE. The table below is an example of how to present the information.

Receptor # (keyed to a map)	Receptor Descrip- tion	Represents	FHWA Noise Abate- ment Criteria (dB(A))	Exist- ing Noise Level (Year) (dB(A))	Future No Build Noise Level (Year) (dB(A))	Build Noise Level (Year) (dB(A))	Noise Level Change (Build minus Exist- ing) (dB(A))	Impact- ed?
	Residentia							
1	I	12 homes	67	65	67	66	1	Yes
	Commerci	3						
2	al	businesses	72	70	70	74	4	Yes

Table 2 : Example Traffic Noise Modeling Summary

If there are no traffic noise impacts, state:

"Future noise levels for the receptors would not approach, meet, or exceed the noise abatement criteria, or substantially exceed existing noise levels."

If there are traffic noise impacts, state which CNEs have predicted traffic noise impacts, the types of activities which may be affected, and state the need to conduct a noise abatement evaluation.

3.5.4 Would a noise barrier be feasible and reasonable?

Describe the traffic noise abatement types considered for each CNE which are listed in Section 26-6.05(d)2. State the traffic noise abatement types that are feasible and reasonable and will likely be incorporated into the proposed project. For all abatement measures, state estimated costs, height and length of barriers, and if the barriers provide adequate noise reduction (meet the state Noise Reduction Design Goal (NRDG). The table below is an example of how to do this.

Recept or #	Barrier Height	Barrier Length	Total Cost	Does the Barrier meet NRDG? ¹	Estimated Build Cost per Benefited Receptor	Allowable Cost per Benefited Receptor ²	Will the barrier likely be implemented?	If No, Reason(s) Why
					\$/benefite			
		800			d	\$/benefite		Not cost
1	18 feet	feet	\$	Yes	receptor	d receptor	No	effective

¹ There must be at least one benefited receptor that has noise levels reduced at least 8 dB(A) to meet the Noise Reduction Design Goal (NRDG).

Table 3: Example Noise Mitigation Summary

If abatement measures are <u>NOT</u> feasible and reasonable, document why and state the following:

"The proposed project is anticipated to have traffic noise impacts, but the noise barriers studied and identified in Table (reference table in NEPA documentation) do not meet IDOT's feasibility and reasonableness criteria. Due to this, traffic noise abatement measures are not likely to be implemented based on preliminary design. If the project's final design is different from the preliminary design, IDOT will determine if revisions to the traffic noise analysis are necessary. A final decision on noise abatement will not be made until the project's final design is approved and the public involvement processes is complete."

² The allowable cost is calculated based on the IDOT Noise Policy.

If abatement measures are determined to be feasible, meets the IDOT Noise Reduction Design Goal, and are cost effective, but the solicitation of viewpoints from benefitted receptors will be deferred until Phase II Design then state the following:

"The noise barriers were determined to meet the feasibility criteria, the noise reduction design goal, and the cost effectiveness criteria as identified in Table (reference table in NEPA documentation). In order to determine if noise barrier(s) will be implemented, viewpoints solicitation still needs to occur. Viewpoints solicitation will occur after the project's final design is approved. If the project's final design is different from the preliminary design, IDOT will determine if revisions to the traffic noise analysis are necessary. A final decision on

What is viewpoints solicitation in a noise analysis?

Those that would be benefitted by a noise barrier are asked to vote on whether they support the barrier's construction. If more than 50 percent of received votes are in support of the barrier, the barrier is recommended for construction.

noise abatement will not be made until the project's final design is approved and the public involvement processes is complete."

If noise abatement measures are determined to be feasible and reasonable, and viewpoints solicitation is completed during Phase I, then state the following:

"The noise barriers were determined to meet the feasibility and reasonableness criteria. If the project's final design characteristics is different from the preliminary design, IDOT will determine if revisions to the traffic noise analysis are necessary. A final decision on noise abatement will not be made until the project's final design is approved and the public involvement processes is complete."

3.6 Energy

State the following:

Construction of the proposed (Route) improvement will require indirect consumption of energy for processing materials, construction activities, and maintenance for the lane miles to be added within the project limits. Energy consumption by vehicles in the area may increase during construction due to possible traffic delays.

Construction of the proposed improvement will reduce traffic congestion and turning conflicts along the route and thereby reduce vehicular stopping and slowing conditions. Additional benefits would be realized from increased capacity and smoother riding surfaces. This will result in less direct and indirect vehicular operational energy consumption for the build alternative than for the no-action alternative. Thus, in the long term, post-construction operational energy

requirements should offset construction and maintenance energy requirements and result in a net savings in energy usage.

The following should be added when applicable:

The project includes provisions for improved bicycling and walking conditions, thereby encouraging travel by these non-motorized and thus non-energy consuming modes of transportation.

Energy impacts should only be presented if it is an issue of concern in the project area or if substantial differences between alternatives are anticipated.

3.7 Natural Resources

3.7.1 Upland Plant Communities

Need more information? See Section 26-17 Tree/Vegetation Assessments and 26-18 Invasive Species.

If there will be a substantial impact to forest, prairie, or savanna, describe the location of the project in relation to the Natural Divisions of Illinois and provide a brief characterization of the Division(s) involved. Next, compare the characteristics of the Division(s) involved with the types and acreages of forest, prairie, and/or savanna in the project study area. This comparison can help provide context for upland plant communities and wildlife resource impacts.

3.7.1.1 What type of upland plant communities occur within the project study area?

Include a table indicating the number of acres of each cover type in the project study area. Include the following as applicable.

 Identify and depict on the environmental inventory map forested blocks greater than 20 acres in size, prairies, and savannas.

 Describe forested blocks of 20 acres (8 ha) or more based on dominant species, relative age, and quality.

- Trees on the inventory of state record trees, trees possessing exceptional size, form, etc., trees having recognized historical significance, or trees that perform a special function shall be discussed per Design and Environment Policy 18, Preservation and Replacement of Trees (D&E-18).
- Describe prairie/savanna areas by size (acres), prairie/savanna type (e.g. mesic, sand, dolomite), dominant species, grade of natural quality (A-E), and types of disturbance.

Cover types are discussed in Section 26-17.06(b), Cover Type and Vegetation Surveys.

The Memorandum of
Understanding by and between
Illinois Department of Natural
Resources and Illinois
Department of Transportation
requires IDOT to coordinate with
IDNR for actions adversely
affecting prairies, savanna,
and/or bisecting or fragmenting
blocks of trees greater than or
equal to 20 acres in size.

• Briefly describe dominant species and health of trees occurring as landscape elements in urban settings.

3.7.1.2 Will the project impact any upland plant communities?

Summarize project impacts (acres) to upland plant communities.

3.7.1.3 How were forested areas, prairies, and savannas avoided and minimized?

If applicable, discuss measures taken to avoid and minimize impacts to forested areas, prairies, and savannas.

3.7.1.4 Proposed Mitigation

If trees/forests will be impacted discuss the mitigation ratio per Design & Environment Departmental Policy 18 (D&E-18). If applicable, discuss plans for providing prairie/savanna replacement.

3.7.1.5 Are invasive plant species present in the project study area?

Briefly discuss the likely effects of the project on the introduction or spread of invasive species during construction and/or as a result of project maintenance. Identify invasive species in the project study area and briefly describe their potential effects on sensitive resources (e.g., adjacent natural areas, nature preserves, parks or forest preserves). Describe measures used to control invasive species during project construction and maintenance.

3.7.2 Wildlife Resources

Need more information? See Section 26-15 Migratory Birds and 26-16 Wildlife Resources.

3.7.2.1 What type of wildlife habitat occurs within the project study area?

Wildlife habitats in a project area coincide with major plant communities (i.e., cover types). Identify and briefly describe important wildlife habitats and habitats suitable for area-sensitive migratory birds. Identify and discuss wildlife species that occur in the project study area and are addressed in *The Illinois Comprehensive Wildlife Conservation Plan & Strategy* (Illinois Wildlife Action Plan) as "Species in Greatest Need of Conservation for Illinois."

3.7.2.2 Will the project impact wildlife habitat?

Briefly describe impacts to wildlife habitat. Any environmental commitments and mitigation should conform to the recommendations in the Illinois Wildlife Action Plan, to the fullest extent practical.

3.7.3 Threatened and Endangered Species

Need more information? See Section 26-9 Threatened and Endangered Species/Natural Area Impact Assessments and 27 Environmental Surveys.

Include the following language:

"The Federal Endangered Species Act protects species of plants and animals that are threatened or endangered within the U.S. The Illinois Endangered Species Protection Act protects species of plants and animals that are listed under the federal act plus additional plants and animals. Both acts provide for the conservation of threatened and endangered species and the ecosystems upon which they depend."

3.7.3.1 Federally-listed Species/Habitat

3.7.3.1.1 What federally threatened or endangered species exist in the project study area?

State the Federally listed species, species proposed to be listed, designated critical habitat, and/or proposed critical habitat and status for the county(ies) where the project is located.

3.7.3.1.2 Will the project affect federally threatened or endangered species?

An effect determination and the basis for that determination must be discussed for each federally listed species. The effect determinations are "no effect", "may affect, not likely to adversely affect", or "may affect, likely to adversely affect". Summarize the following information, as applicable:

Federal species that are delisted are still State listed species until the Illinois Endangered Species Protection Board delists them.

- species distribution, habitat needs, and other biological requirements;
- affected areas of the proposed project;
- biological survey and database search results;
- possible impacts, including opinions of recognized experts on the species involved;
- measures to avoid impacts; and
- measures to minimize adverse impacts.

If formal consultation is required, a copy of the Biological Assessment (BA) and the Biological Opinion (BO) should be included as an appendix to the EA or EIS and must be completed prior to the approval of the FONSI or ROD. The BA and BO should be summarized in the text of the EA or EIS.

3.7.3.2 State-Listed Species

3.7.3.2.1 What state threatened or endangered species exist in the project study area?

Identify each state-listed species that has a record of occurrence in IDNR's Natural Heritage Database in the vicinity of the project's study area. Also, identify any state listed species found during biological surveys conducted for the project.

3.7.3.2.2 Will the project affect state threatened or endangered species?

Summarize the habitat of each state listed species identified above and the results of the biological surveys conducted. Discuss potential project impacts to the species. Describe any avoidance measures, minimization and mitigation for any impacts. Reference any applicable compliance documentation (e.g., Detailed Action Report, Biological Opinion, and Incidental Take Authorization, as applicable) and include the documentation in the EA appendix.

3.8 Surface Water Resources

Need more information? See Section 26-19, 26-20 and 26-21.

Include the following language:

Surface water resources include wetlands, streams, rivers, lakes, and ponds. Wetlands are discussed in Section 3.10. Surface water resources are protected by the Clean Water Act.

3.8.1 What waterbodies exist in the project study area?

Briefly describe all streams, rivers, lakes, and ponds that occur in the project study area and indicate their location on an environmental inventory map. Include a brief summary of important physical, biological, and chemical characteristics unique or pertinent to the project and the decision-making process.

In the appendix to the EA or EIS include the following three tables if data was collected or is available.

Chemical data for the streams, rivers, lakes, and ponds						
Date sample	Amount detected of the following: pH, dissolved	Include	water	quality		
was collected	oxygen, total phosphorus, chloride, dissolved	standards	for	each		
	copper, dissolved lead, dissolved zinc, dissolved sulfate, total dissolved solids, water	parameter	as approp	riate		
	temperature, hardness, etc.					

Physical Ch	aracteristics	s of Strean	ns and	Rivers			
Stream	Upstream	drainage	Flow	water	Riparian	Mean habitat	Watershed
name	are (square	e miles)	depth		habitat	score	characteristics

Biological Characteristics of Streams and Rivers							
# of fish	# of	Dominant	% of	Aquatic	# of	Ephemeroptera,	
present	intolerant fish species	fish species	intolerant fish species	habitat quality	mussels	Plecoptera, and Trichoptera (EPT)	
	non opecies		пзи зрестез	quality		richness	

3.8.2 Are there any water bodies that the Illinois Environmental Protection Agency lists as impaired or fully supporting for a designated use?

Identify impaired waterbodies in the project area plus the designated use, support level, and causes and sources of impairment. Also, identify any waterbodies that are fully supporting a designated use. This information can be found in Appendix B-2, B-3, and B-4 of the *IEPA Integrated Water Quality Report and Section 303d List*. Identify water bodies in the project area that have a Total Maximum Daily Load developed. This can be depicted in table form.

3.8.3 Are there any streams in the project study area that have a special designation?

Identify those resources that have a special designation including

- navigable waters,
- Wild and Scenic River,
- Nationwide Rivers Inventory stream,
- stream designated as a Illinois Natural Area Inventory Site,
- Advanced Identification (ADID) Stream,
- Illinois Biologically Significant Stream,
- Biological Stream Rating (BSR) for diversity or integrity, and/or
- Outstanding Resource Water (listed in 35 III. Adm. Code 303.206).

3.8.4 How will the project impact water resources during construction of the project?

Identify the types of construction activities (e.g., vegetation removal, in-stream work, bridge or culvert construction, bridge demolition, channel change, riprap placement) that will occur in and adjacent to each water crossing. Identify any potential effects on the biological and physical parameters and water quality characteristics of each water resource. Identify any minimization measures. If the proposed project will involve an Outstanding Resource Water, list and briefly describe measures to be implemented to avoid introducing water pollution from the project into an Outstanding Resource Water.

3.8.5 Will construction impacts to water resources be mitigated?

Depending on the nature of the impact, mitigation should be discussed. If channel realignment is necessary discuss what type of mitigation is proposed and if the mitigation will follow the Illinois Stream Mitigation Method. Aquatic habitat mitigation should be based on the wildlife needs as described in the Management Guidelines included in the Natural Division Assessments that are a part of the Illinois Wildlife Action Plan. If a watershed plan is available discuss mitigation in relation to the plan.

3.8.6 Will the project impact water resources during operation of the proposed project?

State any measures implemented to minimize water quality impacts. For any water listed as impaired on the 303(d) list or has a TMDL, discuss whether the project will contribute to the cause(s) of the impairment. If a pollutant loading analysis is required, discuss the results. Compare the results to the State water quality standard. If the chemical concentrations exceed the water quality standard, state the mitigation measures that will be implemented to reduce the chemical concentration below the water quality standard.

3.8.7 Will the project impact water resources during maintenance of the proposed project?

Pollutant loading analysis should be conducted if additional impervious surface will be added and one of the following occurs:

- the highway runoff is being discharged into a sensitive stream, seep, fen, or nature preserve;
- a waterbody is listed as impaired on the 303(d) list or has a Total Maximum Daily Load for a chemical in which the highway runoff would contribute additional load;

For projects that meet one of these criteria use SELDM to conduct the pollutant loading analysis for copper, lead, zinc, chloride and the chemical in which the water body is impaired.

If a pollutant loading analysis was used to analyze chloride concentrations discuss the results of the analysis. If chloride is a cause of impairment to the water body and an individual 401 Water Quality Certification is needed, demonstrate how the project will have a no net increase in chloride. If the water body being impacted has a TMDL for chloride, demonstrate how the project will meet compliance with the TMDL.

If SELDM was not used to analyze chloride concentrations discuss standard Best Management Practices with regards to IDOT's use of chloride.

Use the FHWA and USGS SELDM to analyze chloride concentrations if the project will add impervious surface and any of the following apply:

- The project is in an area with an IEPA-designated, chloride impaired watershed(s), or
- A water quality sample result is proximate to an exceedance of the chloride water quality standard.

3.8.8 What water related permits will the project require?

Indicate water body crossings requiring IDNR Office of Water Resources permit, US Coast Guard permit, NPDES permit, Section 401 Water Quality Certification, and the type of USACE 404 permit(s) anticipated for each water body crossing. If an NPDES construction permit is required, incorporate the following paragraph into the EA or EIS:

It is anticipated this project will result in the disturbance of one or more acres of land. As a result, a National Pollutant Discharge Elimination System (NPDES) permit for stormwater discharges from the construction sites is required. Permit coverage for the project will be obtained either under the IEPA General Permit for Stormwater Discharges from Construction Site Activities (NPDES Permit No. ILR10) or under an individual NPDES permit. Requirements applicable to such a permit will be followed, including the preparation of a Stormwater Pollution Prevention Plan. Such a plan shall identify potential sources of pollution which

may reasonably be expected to affect the quality of stormwater discharges from the construction site and shall describe and ensure the implementation of practices which will be used to reduce the pollutants in discharges associated with construction site activity and to assure compliance with the terms of the permit.

3.9 Groundwater Resources

Need more information? See Section 26-22

3.9.1 Are any aquifer recharge areas, wellhead protection zones, or private and public water supply wells located in the project study area?

For the project study area, identify and describe aquifer recharge areas and wellhead protection zones. Due to public safety concerns the exact location of private and public water supply wells should not be identified in the EA/EIS, but should be explained in relationship to the project by stating the number of public and private water supply wells, depth of construction, and the proximity to the alternatives that are carried forward or the preferred alternative. This information can be accomplished via a table. If the project will potentially impact these groundwater resources or quality, discuss commitments for avoiding, minimizing, and mitigating for these impacts within the EA or EIS.

3.9.2 Will there be any impacts to any aquifer recharge areas, wellhead protection zones, or private and public water supply wells?

As applicable, include this statement in the EA or EIS

"This project will not create any new "potential routes" for groundwater pollution or any new potential sources of groundwater pollution as defined in the Illinois Environmental Protection Act (415 ILCS 5/3, et seq.)."

If the project will create a new potential route or source for groundwater pollution, describe the nature of the route or source and indicate whether it will be within a setback zone (minimum or maximum) for a potable water supply well. Indicate the type of well (i.e., New "potential route" is defined by the Illinois Environmental Protection Act to mean a potential route which is not in existence or a potential route which expands laterally beyond the current permitted boundary. "Potential route" is defined as abandoned and improperly plugged wells of all kinds and any excavation for the discovery, development or production of stone, sand, or gravel.

community water supply or private water supply) and discuss any permits or mitigation measures that may be needed for the route or source to protect groundwater resources. Indicate whether the project is within a regulated recharge area established through Illinois Pollution Control Board rulemaking and describe the extent of the regulated area.

3.9.3 Will the project impact karst topography?

If karst topography does not exist in the project area, state "The site is not located within karst topography according to the IEPA Source Water Assessment Program." If karst does exist in the project area, then the environmental document should briefly identify and discuss avoidance

of the karst features, and, if applicable the use of storm water pollution prevention BMPs during construction and operation of the transportation facility. If there will be any project impacts to karst features the potential for groundwater contamination shall be discussed.

3.9.4 Will the project impact the Mahomet Sole Source Aquifer?

If the project is not within the Mahomet Sole Source Aquifer project review area, state the following:

There are no Sole Source Aquifers, as designated under Section 1424(e) of the Safe Drinking Water Act, within the project area.

If the project is located within the Mahomet SSA project review area, use the following language:

"On March 11, 2015 the U.S. Environmental Protection Agency (USEPA) designated a portion of the Mahomet Aquifer system as a sole source aquifer (SSA) under Section 1424(e) of the Safe Drinking Water Act, as shown in the attached map. The Safe Drinking Water Act gives USEPA authority to designate all or part of an aquifer as a "sole source" if contamination of the aquifer would create a significant hazard to public health and there are no physically available or economically feasible alternative sources of drinking water to serve the population that relies on the aquifer. The designation authorizes USEPA review of projects that receive Federal financial assistance to assess the potential for contamination of the aquifer system that would create a significant hazard to public health.

This project is within the review area of the Mahomet SSA and the potential to impact the SSA and create a significant hazard to public health has been evaluated as established by the memorandum of understanding between IDOT, FHWA, and USEPA Region 5, which is based upon procedures that ensure compliance with the requirements of Section 1424(e) of the Safe Drinking Water Act."

Note: A significant hazard to public health is defined as the level of contaminants in an aquifer would exceed National Primary Drinking Water Standards or exceed Federal, Tribal or state public health advisory levels for currently unregulated contaminants, or violate the intent of EO 12088, "Federal Compliance with Pollution Control Standards."

If the project is located within the Mahomet SSA project review area, include a discussion of the following issues in the appendix:

- the extent of substantial excavation (greater than 10 feet in depth)
- addition of drainage wells, or stormwater infiltration facilities that do not meet IDOT treatment requirements
- adding Pollution Generating Impervious Surface (PGIS) of more than 5,000 square feet without applying pollution prevention BMPs

- opening of new material sources that could result in potential contamination
- replacement of drywells or other injection wells that do not meet IDOT treatment requirements or Underground Injection Control regulations
- drilled shafts or pile-driving, for bridge or other foundations that penetrate, or come close to penetrating the SSA
- installation, repair, or abandonment of a public or private water supply well that accesses the SSA
- construction or upgrading of sewage disposal stations at rest areas, weigh stations, scenic overlooks, or other locations
- use of pesticides, herbicides, and fertilizers that contain any of the chemicals listed in the National Primary Drinking Water Regulations, 40 CFR Part 141
- project located within the boundaries of a site listed on the USEPA National Priorities List (i.e., a Superfund site)
- removal of underground storage tanks that are known to have leaked (i.e., a Leaking Underground Storage Tank as listed in the Office of the Illinois State Fire Marshal (OSFM) website

Based on the evaluation, state whether the project will or will not cause risks to the Mahomet Aquifer that could create a significant hazard to public health. If there are risks, explain the risks. Coordination with USEPA can occur via the EA and EIS. Document the results of coordination with USEPA in the FONSI or ROD.

3.10 Floodplains

Need more information? See Section 26-7 Floodplains Encroachments.

Include the following language:

Floodplains are flat areas along streams and water bodies that hold excess water after a storm. Executive Order 11988 states that impacts to floodplains should be avoided when possible.

If available for the project study area, use National Flood Insurance Program (NFIP) maps to identify the 100-year floodplain. If no floodplains are identified in the project study area then state how this conclusion was reached and the questions below can be removed from the document. If floodplains are identified please answer the following questions according to the directions below.

3.10.1 How were floodplains identified in the project study area?

Depict 100 year floodplain and, where applicable, regulatory floodways on the environmental inventory map. State the data being used to identify floodplains (i.e., NFIP map year). Describe the natural and beneficial values of the floodplain and regulatory floodways. Summarize comments on floodplain issues received through public meetings and Context Sensitive Solutions (CSS) processes, if applicable.

3.10.2 Will the project impact any floodplains in the project study area?

Discuss the project's potential effects on floodplains. Identify the number of floodplain encroachments. Each encroachment must be classified as a longitudinal or transverse encroachment and depicted on the environmental inventory map. Identify if there will be a significant floodplain encroachment.

If the project will affect a regulatory floodway, summarize the results of coordination with the Federal Emergency Management Agency and the local flood control agency regarding consistency of the project with the regulatory floodway requirements.

3.10.3 How were impacts to floodplains avoided or minimized?

State measures to minimize floodplain impacts, measures to avoid longitudinal encroachments, measures to avoid supporting incompatible floodplain development.

If the preferred alternative includes a significant encroachment, as defined in 23 CFR 650.105(q), an "Only Practicable Alternative Finding" must be documented. Include the following in the EA or EIS:

- a reference to Executive Order 11988 and 23 CFR 650 Subpart A,
- the reasons why the proposed action must be located in the floodplain,
- the alternatives considered and why they were not practicable, and
- a statement indicating whether the action conforms to applicable State or local floodplain protection standards.

If the preferred alternative encroaches in a regulatory floodway and mitigation is required the EA or EIS should describe the mitigation. An IDNR/Office of Water Resources (OWR) permit is required for construction within a regulatory floodway.

3.11 Wetlands

Need more information? See Section 26-8 "Wetlands", Chapter 27 "Environmental Surveys", and Chapter 28 "Environmental Permits/Certifications".

Include the following language:

Wetlands are transitional areas between aquatic and terrestrial habitats where water occurs at or near the soil surface during the growing season. All wetlands are protected by the Illinois Interagency Wetlands Policy Act and some wetlands are protected by the Clean Water Act.

If no wetlands were identified in the project study area then state how this conclusion was

reached (wetland delineations, completely urban, etc.) and the questions below can be removed from the document. If wetlands were identified answer the following questions according to the directions below.

3.11.1 What wetlands were identified in the project study area?

Depict the boundaries of the delineated wetlands and Advanced Identification (ADID) wetlands, where applicable, on an environmental inventory map of the project study area. Identify the version of the USACE Wetland Delineation Manual used to delineate the wetlands plus the date and author of the delineations. Briefly characterize each wetland plant community type, quality and functions. Functions discussed will be based

The Interagency Wetland
Policy Act requires a mitigation
ratio of 5.5:1.0 for impacts to
wetlands with at least one of
the following present:

- Wetlands with an FQI of 20 or greater or a mean C of 4.0 or greater
- Presence of a federally or state listed species
- Presence of an INAI site
- Presence of essential habitat for a listed species

on the project study area and may include wildlife habitat, heritage characteristics, flood storage, groundwater discharge, recreation values, and shoreline erosion control. Discuss wetlands with a Floristic Quality Index of 20 or higher or a mean C of 4 or higher. In northeastern Illinois, discuss wetlands that are classified as High Quality Aquatic Resource (HQAR) and Advanced Identification (ADID) because the USACE requires higher mitigation ratios for impacts to these wetlands.

If there are a large number of wetlands in the project study area, identify the wetland types and

acreages that occur within the watershed(s) based on the National Wetlands Inventory (NWI). Next, compare the types and amount of wetlands that occur within the watershed to the amount and type which exist in the project study area. This comparison can help determine context and intensity for wetland impacts.

3.11.2 Will the project impact wetlands?

Include a table (as shown below) that details each wetland impacted in the project area. The table should include the FQI, mean C, wetland site number, wetland type, total size, impact, mitigation ratio, mitigation needed.

Please note that in an EA and EIS, impacts must be calculated as a worst case scenario. Thus, calculate from the estimated edges of right of way limits, not the proposed construction limits.

State that the wetland impacts included in the EA are based on the project's proposed right-of-way and is the worst case scenario. State that avoidance and minimization measures will continue during the design and permitting process. Identify impacts to each plant community type (acreage) and loss of function(s). Discuss the severity of the impact. If the project will have a significant impact on wetlands, preparation of an EIS is required.

	Example Table of Wetland Impacts								
l								Total	
l						Total		Area of	
ı					Total	Area of		Wetland	
ı					Area of	Wetland		Mitigation	Мар
ı	Site	Wetland		Mean	Wetland	Impacted	Mitigation	Required	Sheet
ı	Number	Type	FQI	С	(Acres)	(Acres)	Ratio	(Acres)	Number
ı									

3.11.3 How were wetlands avoided? How were wetland impacts minimized?

Provide a brief discussion of avoidance and minimization efforts (BDE 26-8.05(c)3). Identify practicable measures to reduce the impact.

3.11.4 How will mitigation for wetland loss be accomplished?

Provide a brief discussion of how much mitigation is required, what type of mitigation is proposed (bank, creation, etc.), and where mitigation will occur in relation to the impact (on-site, off-site, out of basin). Mitigation ratios should be based on the Interagency Wetland Policy Act of 1989.

3.12 Special Waste

Need more information? See Section 27-3.

State the title, date, and author of the Phase I special waste assessment report. When the assessment is completed by the Illinois State Geological Survey (ISGS), include in the appendix the memorandum from IDOT stipulating additional special waste studies may be required during Phase II Engineering.

It is unnecessary to include the Phase I special waste assessment report in the EA or EIS. The main points of the report should be summarized in the text of the EA or EIS.

Discuss the following as applicable:

- If the assessment results in a finding of no properties with a confirmed or potential environmental condition (e.g., UST, dry cleaners, etc.), state that finding.
- If the assessment results in a finding of a property(ies) that may contain one or more potential environmental conditions,
 - + summarize the categories of these properties (e.g., UST, dry cleaners, etc.),
 - + characterize the potential magnitude of the environmental conditions,
 - + compare the potential impacts of environmental conditions to each alternative, and
 - + describe measures recommended to address or avoid them.

3.13 Special Lands

Depict locations of any special lands on the environmental inventory map.

3.13.1 Land and Water Conservation (LAWCON) Fund

If the project area includes LAWCON funded land, depict the location on the environmental inventory map. If no impact will occur state this fact. If the project will convert lands that used LAWCON funds to a transportation use, state any avoidance and minimization measures then describe the following:

- •! the land that will be taken and the potential replacement land,
- •! the process to obtain approval from the National Park Service (NPS) for the Section 6(f) land conversion, and
- •! the coordination that has occurred with IDNR and NPS and the timeline for requesting the approval of the conversion.

3.13.2 Open Space Lands Acquisition and Development (OSLAD)

If the project area includes OSLAD funded land, depict the location on the environmental inventory map. If no impact will occur state this fact. If the project will convert lands that have OSLAD funds to a transportation use, state any avoidance and minimization measures then describe the following:

•! the land that will be taken and the potential replacement land,

- •! the process to obtain approval from IDNR, and
- •! the coordination that has occurred and the timeline for requesting the approval of the OSLAD land conversion request.

3.13.3 Other special lands

If the project will involve the use of lands that had grant funds including Illinois Bicycle Path Grant, Illinois Boat Access Area Development, Illinois Snowmobile Grant, Illinois Snowmobile Trail Establishment Fund, Illinois Off-Highway Vehicle Program, Federal Recreation Trails Program, Public Museum Capital Grants Program, Park and Recreational Facility Construction Program involved in their purchase or development, describe the involvement and summarize coordination with IDNR.

3.13.4 State Designated Lands

Need more information? See Section 26-9 Threatened and Endangered Species/Natural Area Impact Assessments and Chapter 27 Environmental Surveys.

State the following language:

State designated lands include Illinois Natural Area Inventory (INAI) Sites, Land and Water Reserves, Natural Heritage Landmarks, and Nature Preserves. The Illinois Natural Areas Preservation Act sets the criteria for these land designations to help protect Illinois' sensitive natural resources.

3.13.4.1 Are there any state designated land in the project study area?

Depict the location of state designated lands in the project study area on an environmental inventory map. Indicate the name of each state designated land in the project study area, its size (acres/hectares), ownership (public or private) and the features that are the basis for its significance (i.e., "Element Occurrence").

Use of land from significant, publicly-owned Illinois Nature Preserves, Land and Water Reserves and Illinois Natural Area Inventory Sites also may be subject to Section 4(f); see Section 26-2.

3.13.4.2 Will the project affect any state designated lands?

Impacts to Illinois Natural Areas and Natural Heritage Landmarks should be avoided to the extent practical. Taking of land from a Land and Water Reserve requires the Illinois Nature Preserves Commission and Illinois Department of Natural Resources to agree that the take is in the public's interest. If impacts cannot be avoided to these sites, identify the acreage (hectares) to be taken by the project and the effects on the elements which allowed the land to be designated.

3.13.4.3 How was the state designated land avoided? How were impacts minimized?

Identify any environmental commitments and/or mitigation associated with the impacts to the state designated land. Summarize the results of coordination with IDNR and the Illinois Nature

Illinois Statutes in 525 ILCS 30, afford dedicated Nature Preserves a high level of protection from conversion to other uses. The statutes include the following language:

Areas dedicated as nature preserves are hereby declared to be put to their highest, best and most important use for the public benefit. They shall be protected, managed and used in the manner provided by rules. They may not be taken under power of eminent domain or by other means for any other use except another public use and, except upon approval of the Commission, the Governor and any public owner of a dedicated interest therein after a finding by the Commission of the existence of an imperative and unavoidable public necessity for such other public use, and upon such terms and conditions as the Commission may determine, except as may otherwise be provided in the instrument of dedication.

In light of these provisions, every effort should be made to avoid impacts to dedicated Nature Preserves.

Preserves Commission (for Land and Water Reserves) and include copies of correspondence with these entities in the Comments and Coordination section of the EA or EIS.

3.14 Section 4(f) Evaluation

When Section 4(f) resources are involved, the EA should contain a separate heading entitled "Section 4(f) Evaluation;" unless an individual Section 4(f) evaluation is required, in which case it shall contain a separate chapter titled "Section 4(f) Evaluation." This Section should not repeat information contained in the EA. Rather, information should be included by reference only.

Need more information about Section 4(f)? See Section 26-4 and consult with FHWA. Note that only FHWA approves Section 4(f) determinations.

3.14.1 Are there any Section 4(f) properties in the project study area?

If no, state this fact. If yes, identify each property, describe why each property is protected by Section 4(f), and identify the boundary of the 4(f) property on the environmental inventory map.

3.14.2 Will any land from the 4(f) property be needed for the project (either temporarily or permanently?

If no, state this fact. If yes do the following for each 4(f) property where land is needed:

- If an "exception" to 4(f) is applicable under 23 CFR 774.13, provide explanation and documentation on how the exception criteria are met (see criteria in 23 CFR 774.13(d) for temporary occupancy which is one of the most common exceptions).
- If the "use qualifies for a de minimis determination then explain why and provide documentation listed in Section 26-2.04(d)2. Please note that the public must be provided the opportunity to comment on the use of the Section 4(f) property *prior* to the OWJ concurrence that the attributes of the property are not adversely affected by the project ("no adverse effect" if historic property and Section 106 applies).
 - + If the public opportunity to comment on the de minimis *has* already occurred, include the written concurrence from the Official With Jurisdiction.
 - + If the public comment opportunity *has not* occurred, explain that we are seeking public comment prior to making the de minimis determination. Provide concurrence from the Official With Jurisdiction; or explain we're seeking public comment prior to making determination.
- If the "use" requires a Section 4(f) programmatic agreement evaluations or an individual evaluation then discuss feasible and prudent avoidance alternatives and, if appropriate, least harms analysis.

3.15 Indirect and Cumulative Impacts

Discuss the environmental resource areas identified during scoping and ongoing coordination that could have substantial indirect and cumulative impacts and methodologies for analyzing those impacts. Discuss reasonably foreseeable indirect and cumulative impacts for each of these environmental resource areas. This includes effects that would be caused by the project action later in time or further removed in distance, but that would still be reasonably foreseeable. Figure 4 illustrates the difference between indirect impacts and cumulative impacts.

Figure 4 - Illustration of indirect and cumulative impacts

3.16 Greenhouse Gases and Climate Change (EIS only)

Include the following text:

Greenhouse gases (GHGs), which contribute to climate change, are both a national and global concern. While the earth has gone through many natural climate variations in its history, there is general agreement that the earth's climate is currently changing at an accelerated rate and will continue to do so for the foreseeable future. Anthropogenic (human-caused) GHG emissions contribute to this rapid change. Carbon dioxide (CO_2) makes up the largest component of these GHG emissions. Other prominent transportation GHGs include methane (CH_4) and nitrous oxide (N_2O).

Discuss if the project is located in an area considered vulnerable to the effects of climate change. Describe the effect of the alternatives on GHG emissions compared to the no-build.

3.17 Irretrievable and Irreplaceable Resources

Include the following language:

Implementation of the proposed action involves a commitment of a range of natural, physical, human, and fiscal resources. Land used in the construction of the proposed facility is considered an irreversible commitment during the time period that the land is used for a highway facility. However, if a greater need arises for use of the land or if the highway facility is no longer needed, the land can be converted to another use. At present, there is no reason to believe such a conversion will ever be necessary or desirable.

Considerable amounts of fossil fuels, labor, and highway construction materials such as cement, aggregate, and bituminous material are expended. Additionally, large amounts of labor and natural resources are used in the fabrication and preparation of construction materials. These materials are generally not retrievable. However, they are not in short supply and their use will not have an adverse effect upon continued availability of these resources. Any construction will also require a substantial one-time expenditure of both State and Federal funds which are not retrievable.

The commitment of these resources is based on the concept that residents in the immediate area, State, and region will benefit by the improved quality of the transportation system. These benefits will consist of improved accessibility and safety, savings in time, and greater availability of quality services which are anticipated to outweigh the commitment of these resources.

3.18 Environmental Commitments

Provide a brief description of each environmental commitment associated with the proposed project, including who made the commitment and to whom it was made. Summarize mitigation measures to be provided for unavoidable adverse environmental impacts.

3.19 Permits/Certifications Required

List the permits and certifications required for the project and should reference the section(s) and subsection(s) where the related permit/certification issues are discussed.

Commitments must be listed in the EA, EIS, FONSI, and/or ROD.

3.20 Other

If the project would have a substantial visual impact, discuss with BDE if a visual analysis is necessary. Typically, in Illinois, an EA does not warrant an analysis of visual resources and aesthetics.

An environmental commitment is a documented promise or obligation concerning an environmental issue made by a representative of IDOT to an entity outside the Department.

Chapter 4 – Comments and Coordination

Summarize the coordination that occurred and the results of the coordination. Include in the appendix copies of correspondence sent and received from the agencies.

PART II: HOW TO WRITE A FINDING OF NO SIGNIFICANT IMPACT (FONSI) AND ERRATA

Part II provides guidance on how to write an Errata and Finding of No Significant Impact (FONSI). The purpose of the guidance is to set clear expectations for what information should be included in these documents and how the information should be displayed.

FONSI

For additional information regarding FONSI and associated documentation refer to 23 CFR 771.121, FHWA's regulations for Environmental Impact and Related Procedures, and Chapter 24 of the BDE Manual.

The following provides guidance on how to write a FONSI.

For formatting purposes the header shall appear as the following:

U.S. Department of Transportation

Federal Highway Administration

FINDING OF NO SIGNIFICANT IMPACT

[Project Name, City, County, State]

The body of the FONSI should be organized in the following manner:

Project Description

In a paragraph or two, briefly describe the proposed action, its location (city, county, state), and the preferred alternative, including any changes resulting from the comments received. Do not restate the Purpose and Need. If in an urbanized area, describe the project's inclusion in the metropolitan planning organization's (MPO's) long range plan and transportation improvement program. If not in an urbanized area, describe how the project is consistent with the State's long range plan and where it is included in the statewide transportation improvement program.

Commitments

List the commitments that were included in the EA, and any that have been made since. Commitments are defined in IDOT D&E 19.

PUBLIC HEARING AND COMMENT

Provide general information regarding when and how the EA was made available for comment, e.g., public notice, legal notice, letters, a copy available at IDOT District Office, FHWA office, libraries, project website, etc. Here is an example:

The Environmental Assessment was made available for public review on [date]. A public hearing was held on [date]. Comments on the Environmental

Assessment were accepted at the public hearing and from the date the EA was made available to the public through the comment closing period on [date].

All comments received during the public comment period were responded to and are included in the Errata.

AGENCY DETERMINATIONS

The following findings are <u>always</u> included in the EA, not the FONSI:

- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority
- Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended;
- Executive Order 11990, Protection of Wetlands;
- Executive Order 11988, Floodplain Management.

Any and all findings not included in the EA must be included in the FONSI.

The following findings establish the project's adherence to applicable laws intended to protect sensitive environmental and socioeconomic resources:

Endangered Species Act of 1973

Include this section only if a Biological Opinion was required and Section 7 formal consultation was not completed prior to the EA approval. The results of the BO and summary of the BA will be included under this section.

Section 106 of the National Historic Preservation Act of 1966

Include the finding that was made (no historic properties affected; no adverse effect; adverse effect) and date of concurrence from SHPO. Reference ratified MOA if an MOA was prepared.

Section 4(f) of the U.S. DOT Act of 1966

Identify if any Section 4(f) resources will be used. Describe any findings (de minimis) or feasible and prudent determinations. Describe any applicable exceptions (e.g., temporary occupancy).

Section 176(c) of the Clean Air Act, as amended

Include the following language if the project is in a nonattainment or maintenance area:

This project is located in a nonattainment area for transportation-related criteria pollutants; therefore, the transportation conformity requirements of the Clean Air Act apply. FHWA has determined that the preferred alternative meets project-level conformity requirements because it is included in the conforming metropolitan transportation plans and transportation improvement programs of the appropriate metropolitan planning organization.

Add the following text to the paragraph above if the project is <u>not</u> a project of air quality concern in a PM_{2.5} nonattainment/maintenance area:

The project was determined to be a project that is not an air quality concern under 40 CFR 93.123(b)(1), because it primarily services gasoline operated vehicular traffic. None of the roadways in the study area carry a substantial amount of diesel truck traffic currently nor are they expected to under the 2040 No-Build or Build condition. It has been determined that the project will not cause or contribute to any new localized $PM_{2.5}$ or PM_{10} violations or increase the frequency or severity of any $PM_{2.5}$ or PM_{10} violations.

Add the following text to paragraph above if it <u>is</u> a project of air quality concern in a PM_{2.5} nonattainment/maintenance area:

A quantitative PM_{2.5} hot-spot analysis demonstrated the project would not cause, contribute to, or delay timely attainment of the PM_{2.5} National Ambient Air Quality Standards.

CONCLUSION

Include the following language:

The FHWA has determined that the Preferred Alternative identified in the Environmental Assessment will have no significant impact on the human environment. The Finding of No Significant Impact (FONSI) is based on the attached Environmental Assessment and Errata which has been independently evaluated by the FHWA and determined to adequately and accurately assess the need, environmental issues, and impacts from the proposed project. It provides sufficient evidence and analysis for determining that an Environmental Impact Statement is not required. The FHWA takes full responsibility for the accuracy, scope, and content of the attached Environmental Assessment and Errata.

Date	[Insert name of IL Division
	Administrator]
	Division Administrator

Errata

The Errata shall include the following language:

This Errata includes corrections, revisions, and/or additions to the Environmental Assessment (EA) for the [project name and county(ies)], following the signed approval by the Illinois Department of Transportation (IDOT) and the Federal Highway Administration on [date of EA signature].

Document changes and corrections to the EA in the following format.

Chapter #: Chapter Name

Page #, Section # - Section name – Paragraph #, Sentence #, and description of change.

- Include changes and corrections to the EA. The changes to the EA shall include any modifications to the proposed actions or mitigation measures in response to any new information or comments received on the EA or at the public hearing, as well as any impacts of the modifications.
- Include revisions to tables and figures.

Chapter #: Comments and Coordination

- Include a summary of comments and responses received
- List and describe any ongoing coordination and follow-up documentation.

Appendix #: Public Involvement

- Add public hearing documentation, court reporter transcript, all comments received, and responses to comments.

PART III: HOW TO WRITE A RECORD OF DECISION AND FINAL ENVIRONMENTAL IMPACT STATEMENT

Part III provides guidance on how to write a Final Environmental Impact Statements (FEIS) and Record of Decision. The purpose of the guidance is to set clear expectations for what information should be included in these documents and how the information should be displayed.

Cover Pages

The cover page is different if the project will have a combined FEIS and ROD or if the FEIS and ROD are separate. Use the applicable cover page:

- For combined FEIS and ROD
 - + Use the cover sheet outlined in Figure 6 which combines the signatures for the FEIS and ROD.
- For separate FEIS and ROD
 - Use the cover sheet outlined in Figure 5 for the FEIS.
 - + An approval paragraph must be included in the ROD.

[Route, Termini, City or County, and State]
FINAL ENVIRONMENTAL IMPACT STATEMENT
AND

RECORD OF DECISION

Submitted Pursuant to 42 U.S.C. 4332 (2)(c) (and where applicable, 49 U.S.C. 303) by the U.S. Department of Transportation Federal Highway Administration and Illinois Department of Transportation

and

[As applicable, any other joint lead agency]

Cooperating Agencies

[Include List Here, as applicable]

Date of Approval of FEIS ¹	For IDOT
The following persons may be contacted for document:	or additional information concerning this
[Name] number	[Name, office address, and phone
Division Administrator Federal Highway Administration 3250 Executive Park Drive Springfield, Illinois 62703 Telephone: 217-492-4640	of IDOT Regional Engineer]
[A one-paragraph abstract of the statemen	t]
EIS with input received from other agencie	ained in the Final EIS and after careful nd environmental factors contained in the Final s, organization, and the public, it is the decision tive Description]] as the Selected Alternative.
Date of Approval of FEIS and ROD	For FHWA

Figure 5

FEIS Cover Page for Combined FEIS and ROD

¹ IDOT's signature commits it to implement the project as described in the FEIS, including all mitigation measures contained therein, and serves to recommend to FHWA to approve the FEIS and ROD.

[Route, Termini, City or County, and State]

FINAL ENVIRONMENTAL IMPACT STATEMENT

Submitted Pursuant to 42 U.S.C. 4332 (2)(c) (and where applicable, 49 U.S.C. 303) by the

U. S. Department of Transportation Federal Highway Administration

and

Illinois Department of Transportation and [As applicable, any other joint lead agency]

<u>Cooperating Agencies</u>
[Include List Here, as applicable]

	<u> </u>	
Date of Approval	For IDOT	
Date of Approval	For FHWA	

The following persons may be contacted for additional information concerning this document:

[Name]
Division Administrator
Federal Highway Administration
3250 Executive Park Drive
Springfield, Illinois 62703
Telephone: 217-492-4640

[Name, office address, and phone number of IDOT Regional Engineer]

[A one-paragraph abstract of the statement.]

*FHWA will issue a single FEIS and Record of Decision document pursuant to Public Law 112-141, 126 Statute 405, Section 1319(b) unless FHWA determines statutory criteria or practicability consideration preclude issuance of the combined document pursuant to section 1319.

Comments on this document are due by [Date] and should be sent to [Name and office address of IDOT Regional Engineer].*

Figure 6

FEIS cover page for separate FEIS and ROD

ROD Format

The purpose of the Record of Decision (ROD) is to explain the reasons for the project decision, summarize any mitigation measures that will be incorporated in the project, and document any required Section 4(f) approval. The following format is recommended for the ROD in order to organize the key items most efficiently:

A. Decision

Identify the selected alternative. Reference to the Final EIS may be used to reduce repetition. The following text is recommended as an introduction to this section:

This Record of Decision is the official decision document that concludes the National Environmental Policy Act process. Through this ROD, FHWA grants IDOT approval to proceed with final design, completion of acquisition of needed property, and construction of the project. This ROD is executed in conformance with the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 CFR Part 1500) as well as FHWA's own regulations (23 CFR Parts 771 and 774). This ROD documents FHWA's compliance with NEPA and identifies additional requirements that must be met to proceed with the project. The decision is based on analyses contained in the Draft EIS issued on [[date]]; the Final EIS issued on [[date]]; and the comments of federal and state agencies, members of the public, and elected officials; and other information in the project record.

This ROD approves [[identify Selected Alternative]] as the Selected Alternative ("the Project").

B. Alternatives Considered

To organize the information most clearly, describe each alternative and explain the balancing of values that led to the final decision. The environmentally preferred alternative must be identified (the alternative that causes the least damage to the biological and physical environment). If the environmentally preferable alternative is not selected, the ROD should clearly state the reason(s) that the environmentally preferred alternative was not selected.

Identify the values that were important in the decision making process, as well as the reason(s) that some values were considered more important than others.

C. Section 4(f)

Briefly describe Section 4(f) resources within the project area that will be avoided and summarize the basis for any Section 4(f) approval. The discussion should include the key information that supports the approval

D. Measures to Minimize Harm

Identify and describe the specific measures adopted to minimize environmental harm (e.g., erosion control, appropriate for the proposed action). State whether all practicable measures

to minimize environmental harm have been incorporated into the decision and, if not, why they were not (40 CFR 1505.2(c)).

E. Monitoring or Enforcement Program

Describe any monitoring or enforcement program which has been adopted for specific mitigation measures, as outlined in the final EIS.

F. Comments on Final EIS

If FEIS and ROD are combined do not include this section. If FEIS and ROD are prepared separately, identify all substantive comments received on the FEIS and provide appropriate responses. Other comments should be summarized and responses provided where appropriate.

The following language shall be included in the ROD if the FEIS and ROD are being completed separately.

G. Approval

This section includes a conclusive paragraph followed by a signature block for the Federal approving official. The following conclusive paragraph is recommended:

Based on the analysis and evaluation contained in the FEIS and after careful consideration of all the social, economic, and environmental factors contained in the FEIS with input received from other agencies, organizations, and the public, it is the decision of the FHWA to approve [insert name of the Selected Alternative here] as the Selected Alternative.

The following signature block is required:				
[Date]				
[Name of Illinois Division Administrator]				

H. Appendices

Items that may be included in the appendices are:

- Public and agency comments on the FEIS (separate FEIS and ROD only)
- Responses to FEIS comments (separate FEIS and ROD only)
- FEIS Errata sheet (if applicable)

Division Administrator

- Biological Opinion (if applicable)
- Section 106 Memorandum of Agreement or Programmatic Agreement (if applicable)

Final Environmental Impact Statement (FEIS) Preparation

There are three approaches for preparing a Final EIS. The traditional approach (most common) and condensed Final EIS can be used for any EIS. The abbreviated version of the Final EIS is restricted to conditions specified by 40 C.F.R. 1503.4(c).

1. Traditional Approach (most common)

Make changes to the DEIS to add information regarding alternative selection, the selection of mitigation measures, wetland and floodplain findings, the results of coordination, comments received on the DEIS and responses to the comments, and any other relevant information not incorporated in the DEIS. Changes should be marked so that the reader knows that it is new information.

2. Condensed Final EIS

The condensed approach should be much shorter than the traditional approach while still providing the reader a complete overview of the project and its impacts. Incorporate material from the DEIS by reference to avoid repetition of material already presented in the DEIS.

Each major section of the FEIS should briefly summarize the important information contained in the corresponding section of the DEIS, reference the section of the DEIS that provides more detailed information, and discuss any noteworthy changes that have occurred since the draft was circulated. Discussion in the FEIS is focused on new information that was not presented in the DEIS. The format of the condensed FEIS should mimic that of the DEIS.

Items to include are:

- The preferred alternative and the basis for its selection
- Description of any coordination efforts not listed in the DEIS
- Agency and public comments to the DEIS and responses to these comments
- Any required findings or determinations (40 CFR 1502.14(e) and 23 CFR 771.125(a))

3. Abbreviated Version of Final EIS

When the only changes needed in the document are minor and consist of factual corrections and/or an explanation of why the comments received on the DEIS do not warrant further response, 40 CFR 1503.4(c) provides an opportunity to expedite the final EIS preparation. Care should be exercised to assure that the DEIS contains sufficient information to make the findings below and that the number of errata sheets used to make the required changes is small and that these errata sheets together with the DEIS constitute a readable, understandable, full disclosure document.

The Abbreviated FEIS should include the following sections:

- A summary. In the summary state that the FEIS consists of the DEIS and the Errata.
 And explain that this is consistent with the FHWA's guidance on implementing Section 1319(a) of MAP-21.
- Identify the preferred alternative and a discussion of the reasons it was selected;
- A list of the factual corrections made to the DEIS with references to the relevant page numbers in the DEIS;
- A summary of comments received on the DEIS and at the public hearing, and responses to these comments. Identify any coordination activities that have occurred since the issuance of the DEIS, as well as any specific circumstances that would trigger FHWA/FTA's reappraisal or further response (when appropriate);
- Discuss effect determination and any mitigation for Final 23 U.S.C. 138/49 U.S.C. 303 (Section 4(f) evaluation). If no 4(f) properties were impacted, state this fact;
- Any agency findings or determinations not included in the DEIS;
- A list of commitments for mitigation measures for the preferred alternative (when applicable); and Copies (or summaries) of comments received from circulation of the draft EIS and public hearing and responses thereto; and
- DEIS (include in full).